Coronial Findings – Ruptured Splenic Artery Aneurysm

Although rare, splenic artery aneurysm (SAA) is diagnosed more frequently in younger women, with up to 95% presenting during pregnancy. Rupture is associated with a disproportionately high maternal and fetal mortality.

Ruptured SAA should be considered in the differential diagnosis of a pregnant patient with severe and unexplained abdominal pain.

In some country areas it is acknowledged that access to local CT scans and on-site consultant advice is not always possible, never the less good maternal and fetal outcome after a ruptured SAA is dependent on early recognition and prompt appropriate care.

It is recommended that all clinical staff in CHSALHN be aware of the following Coronial recommendations and also review the attached document "Splenic Artery Aneurysm – Taming the killer” kindly re-circulated with RANZCOG permission.

Recommendations

1. That educational and professional development strategies be directed to the medical profession, including medical practitioners and nursing and midwifery staff, concerning the condition of ruptured splenic artery aneurysm. Such measures should include reference to:

   (a) the proposition which appears to be generally accepted that a diagnosis of ruptured splenic artery aneurysm should be considered in any pregnant patient who complains of sudden onset of severe left upper-abdominal pain regardless of whether pain or shock is prominent at the time of evaluation,

   (b) the symptomatology of the condition,

   (c) the fact that patients who are experiencing a ruptured splenic artery aneurysm will not necessarily present in the first instance in shock,

   (d) the fact that practitioners should be alive to the possibility that false reassurance might be derived for a period of haemodynamic and other stability following the initial episode,

   (e) the fact that limited diagnostic reassurance can be derived from a patient’s positive response to analgesia,

   (f) the issue as to whether or not the absence of abdominal guarding and rigidity is of diagnostic significance,
(g) the diagnostic measures that are available and appropriate to diagnose a ruptured splenic artery aneurysm, and

(h) the need for urgency in the conducting of diagnostic measures in cases where a differential diagnosis of ruptured splenic artery aneurysm is involved;

2. Presentations of a pregnant woman who complains of a sudden onset of severe left upper abdominal pain, especially with evidence of loss of consciousness at the time, should immediately be referred to, as far as is possible, a consultant obstetrician and gynaecologist or other medical practitioner at consultant level, including an Emergency Department consultant or surgical consultant;

3. That such patients be the subject of continual and detailed observation, and that such observation should be supervised by a medical practitioner at consultant level;

4. The recommendation of the Victorian Coroner’s Court in respect of the death of Michelle Johnson is endorsed, namely:

   'Intra-abdominal haemorrhage (e.g. ruptured splenic artery aneurysm, ruptured liver) should be considered as part of the differential diagnosis when a pregnant woman presents with severe abdominal pain especially if she requires narcotic analgesia.'

5. That consultations between consultant medical practitioners and radiologists regarding the appropriateness or otherwise of conducting CT scans of pregnant women in circumstances where ruptured splenic artery aneurysm is a part of a differential diagnosis be encouraged to take place routinely;

6. In cases where ruptured splenic artery aneurysm is part of a differential diagnosis, but where other preferred or more likely diagnoses need to be explored, that all diagnostic measures in respect of those other diagnoses be conducted urgently and at the first available opportunity;

7. That the services currently provided at the Women’s and Children’s Hospital be co-located with the Royal Adelaide Hospital.

The complete finding of Inquest is available at this link. Finding of Inquest Paltridge, Mellanie

If you have any queries please contact Heather Borg, A/Patient Safety and Quality Officer, CHSALHN Safety and Quality Unit on (08) 8226 5107 heather.borg@gov.sa.au

Maree Geraghty
Chief Executive Officer Country Health SA Local Health Network
Splenic Artery Aneurysm
Taming the killer

In light of recommendations from recent coronial enquiries, obstetricians of all levels should have a working knowledge of the features of ruptured splenic aneurysm. Intra-abdominal haemorrhage should be considered as part of the differential diagnosis when any pregnant woman presents with severe abdominal pain especially if she requires narcotic analgesia.

Splenic artery aneurysm (SAA) is a rare condition that has a well-recognised association with pregnancy. The reason for this association is thought to relate to cardiovascular changes in pregnancy, with increased pressures in the splenic artery.

A SAA in itself is a condition that is not commonly diagnosed as it usually displays limited or no symptoms. The existence of an aneurysm does not in itself pose an immediate danger, but it is the aneurysm’s potential to rupture that poses the danger. The rupture of a SAA is extremely uncommon, and many obstetricians may never see a case during their careers. The consequences of rupture of a SAA can be catastrophic, and are associated with significant maternal and fetal mortality (75% and 95% respectively). The diagnosis is often not suspected clinically and commonly is only recognised as an incidental finding during other investigations, or made at post mortem examination.

In view of the findings from a number of recent coronial inquiries, it has become clear that the diagnosis of ruptured SAA should be considered in any pregnant patient who complains of the sudden onset of severe left upper abdominal pain, especially with evidence of loss of consciousness at the time, regardless of whether pain or shock is prominent at the time of evaluation.

In this clinical setting immediate referral should be initiated, where possible, to a consultant obstetrician and gynaecologist, or experienced surgeon or emergency consultant. Women with the constellation of symptoms and signs suggesting of ruptured SAA should be the subject of continual and detailed observation, and that such observation should be supervised by a senior medical practitioner. In cases where ruptured SAA is part of a differential diagnosis, but where other preferred or more likely diagnoses need to be explored, all diagnostic measures should be conducted urgently.

Symptoms of a ruptured SAA can include left upper quadrant pain, shoulder tip pain (Kehr’s sign), haemodynamic instability, and loss of consciousness. The clinical course of a ruptured SAA may be characterised by what has been referred to as a ‘double rupture phenomenon’. This is a reference to the fact that while a splenic artery aneurysm can immediately rupture freely and often catastrophically into the peritoneum, it might bleed in the first instance into the lesser omental sac followed later by rupture of the resulting haematoma into the free abdominal cavity. In double rupture phenomenon, bleeding is initially contained within the lesser sac and can be accompanied by syncope (fainting or loss of consciousness), hypotension and flank pain. Partial tamponade
occurs when the lesser sac fills with clot, allowing for recovery of the woman’s blood pressure. A period of minutes to weeks may elapse before the second rupture occurs. The second rupture is marked by escape of clots into the peritoneal cavity. This syndrome may manifest as a sudden initial onset of abdominal pain and collapse followed by a period of relative stability, then a severe secondary haemorrhage and possibly death.

Because ruptured SAA is rare, good maternal and fetal outcomes can only be achieved with a high level of suspicion, early diagnosis, and prompt treatment. A heightened awareness among obstetricians may enhance management of this condition and improve the rates of maternal and fetal survival.